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ABSTRACT

Since the mid 1970s, studies measuring self-perceived sex roles of athletes and nonathletes have, in general, supported the notion of androgyny, and have found that female athletes who have engaged competitively in sports have not necessarily lost their perceived femininity. Subjects for this survey were 657 females older than 15 years who were engaged in various competitive levels of diving, golf, swimming, and volleyball. A 4(sport) x 3(levels of competitiveness) x 4(age) factorial was employed. The dependent variables were the masculine, feminine, and androgynous sex role scores as measured by the revised Bem Inventory (1979). Multivariate analysis revealed a significant composite score for level of competitiveness. Univariate analysis revealed significant differences for masculine scores only. Although masculine scores varied significantly across sports and levels of competitiveness, they were consistently lower than the feminine scores recorded. Results from this study suggest that the females surveyed maintained a stronger feminine than masculine perception of themselves regardless of their level of competitive involvement in sport. (Authors/FG)

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Self-Perceived Sex Role and Female Involvement in Sport

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Running head: Sex Roles and Females in Sport

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SP 018 139

Abstract

The purpose of this study was to comparatively survey competitive sport profiles and self-perceived sex roles of selected female sport participants. Subjects were 657 females, 15 years of age or older, engaged in non-to-moderate competive, intense competitive, or elite competitive situations in the sports of diving, golf, swimming and volleyball. A 4(sport) x 3(levels of competitiveness) x 4(age) factorial was employed. The dependent variables were the masculine, feminine and androgynous sex role scores as measured by the revised Bem Inventory (1979). Multivariate analysis of variance revealed a composite score main effect for level of competitiveness as significant ($p < .004$). Univariate analysis revealed significant ($p < .035$) differences for masculine scores only. Although the masculine scores varied significantly across sports and levels of competitiveness, they were consistently lower than the feminine scores recorded. Results from this study suggest that the females surveyed maintained a stronger feminine than masculine perception of themselves regardless of their level of competitive involvement in sport.

Self-Perceived Sex Role and Female Involvement in Sport

Sports and physical activity have been for the most part perceived and conducted as masculine behaviors in American society (Chu, 1972; Duquin, 1978; Fisher, 1972; Weiner, 1972; Wilson, 1972; Yorburg, 1974). Until recently, the perception of sports as gender-specific combined with the perpetuation of myths about sports and masculinization threatened female sport participation (Gerber, 1974; Sage & Loudermilk, 1979). Yet despite social pressures and masculine stereotyping of sports many girls and women chose competitive sport behaviors as an integral part of their lives. Olympic, national and now professional sports records reflect sustained involvement in non-traditional behaviors by females of all ages. But does this necessarily categorize the dedicated female athlete as being unfeminine? Do females participating in competitive sport behaviors perceive themselves as less stereotypically feminine than their less-involved couterparts?

Self-perceived sex role refers to how individuals perceive themselves relative to the roles society has set for them. Studies by Bem and Lenney (1976), and Bem, Martyna and Watson (1976) have suggested the influential nature of self-perceived sex role to an individual's behavior selection. More traditional role orientations (feminine for females, masculine for males) were found to restrict behaviors to those considered appropriate or desirable by society for each gender; the contemporary androgynous self-perception (the integration of masculine and feminine perceptions in an

individual the "advantage" of behavior flexibility. Proponents of androgyny have explained this"advantage" as an individual's ability to behave in a process-oriented (relative to the demands of a situation) rather than a role-oriented manner (Bem, 1974; Kaplan and Bean, 1976; Forisha, 1978).

Sex role studies on female competitors prior to 1975 reported low scores on traditional measures of femininity--suggesting a masculine sex role perception for those females studied (Harris, 1975). However, these earlier studies reflected a bipolar view of sex role perceptions--the either/or conceptualization that an individual was either masculine or feminine. With the development of instruments specifically designed to measure traditional sex role perceptions as well as the dualistic perception of psychological androgyny, sex role research took on a new dimension. Since the mid 1970's the Bem Sex Role Inventory (1974; 1979) and the Personal Attribute Questionnaire constructed by Spence, Helmreich and Stapp (1975) have been used in studies to identify self-perceived sex roles of athletes and non-athletes. Both instruments were designed to measure masculine, feminine and androgynous sex role perceptions. The findings from recent studies using these instruments have been varied but in general have given support to the notion of androgyny and that female athletes who have taken on traditional masculine role behavior in their participation in competitive sports have not necessarily lost their perceived feminity.

Harris and Jennings (1978) and Spence and Helmreich (1978) using the Personal Attribute Questionnaire, found a higher percentage of female ath-

letes than non-athletes to be androgynous. Snyder and Spreitzer (1975) found indications that female sport participants role orientations were situation specific. More collegiate female athletes than non-athletes were found to be androgynous in a study conducted by Campbell (1977) using the Bem Inventory. Myers and Lips (1978) reported that both male and female competitors studied were more masculine or androgynous than their less competitive counterparts.

Some sports have been identified as more appropriate for girls and women because the behaviors involved are more consistent with prescribed roles and behaviors of the American female image. The primary components of the sports that have been deemed acceptable for the female over the years have included or emphasized fine motor skill, aesthetically pleasing patterns of motion, and no physical contact with an opponent (Metheny, 1965). Sports reflecting the traditional feminine image have included tennis, golf, gymnastics, swimming and diving (Rohrbaugh, 1979). Sports involving strength, bodily contact and endurance have traditionally held little social approval for the femal (Malumphy, 1968; Metheny, 1965; Rohrbaugh, 1979; Sage and Loudermilk, 1979; Snyder, Kivlin, and Spreitzer, 1975). Team sports in general, as well as long distance running events, represent those sport behaviors less desirable for females.

In an effort to further understand the dynamic nature of self-perceived sex role and behavior selection, recent studies and sex role theory have focused on the relationship of age and sex difference in sex role concept-

ualizations (Ullian, 1976). The general findings have shown evidence that males demonstrate stronger conventional perceptions for both masculine and feminine characteristics than females (Spence, Helmreich and Stapp, 1975). Erdwin, Small, Gessner and Gross (1978) reported that subjects over 25 years held less stereotypic views of females roles than those that were younger. Classical sex role development theory has suggested an early stable sex role orientation, but results from recent studies and the life-cycle perspective of personality development have supported the theory that main shifts in sex role conceptualizations occur after age five and are influenced by life stages, sex and discrete life situations (Frieze, Parsons, Johnson, Ruble and Sellman, 1978).

Within the last 10 years many females of all ages have chosen a variety of highly competitive amateur and professional sport behaviors as an integral part of their lifestyles. The new consciousness raising that has accompanied the Women's Liberation Movement, the implementation of Title IX, and the attempts to pass the Equal Rights Amendments are a part of a human liberation revolution in American society that has challenged the appropriateness of traditional sex roles and sex-typed behaviors. This study was undertaken in an effort to extend the findings relating to self-perceived sex role and female involvement in sport to existing female competitive sport situations. Does participation in competitive sport necessitate a masculine self-perception or is it possible that sport and competitiveness have now taken on a less gender-specific meaning in our society?

The general problem of the study was to comparatively survey personal competitive sport profiles and self-perceived sex roles of selected female sport participants, 15 years of age or older, engaged in non-to-moderate competitive, intense competitive, and elite competitive situations in the sports of diving, golf, swimming and volleyball. Based on previous research findings the following differences and interrelationships were anticipated:

1. The more competitive the level of sport involvement the more androgynous the participants; the less competitive the level of sport involvement the more feminine the participants.
2. There will be a tendency toward greater feminine self-perceptions in individuals participating in swimming, diving and golf than those participating in volleyball.
3. The older the participants the more androgynous; the younger the participants the more femininely oriented.

Method

Subjects

Subjects were 657 females, 15 years of age or older that were actively involved in a non-to-moderate competitve (University or Community College Physical Education basic instruction class or a local recreational amateur sport club or team), intense competitive (intercollegiate team), or elite competitive (1979-1980 Olympic Volleyball Team, 1979-1980 Nationally ranked AAU swimming and diving teams, 1979 Ladies Professional Golf Association Touring Professionals) sport situation. Only females participating in diving, golf, swimming or volleyball were studied.

A 4(sports) x 3(levels of competitiveness) chi square analysis was performed to determine whether the percent participation scores of the subjects were consistent across sports and competitive levels. The observed $X^2(6)$ of 33.53 was greater than the critical value of 22.5 for $p < .001$. Because of this significant finding, the sport populations studied were recognized as non-orthogonal. The 4 x 3 contingency table to the chi square analysis is illustrated in Table 1.

Insert Table 1 about here

Procedure

Consent from the Human Subjects Review Committee and approval to administer the data gathering instrument was granted prior to testing. Each subject was given a packet containing a consent form with a brief introduction to the study, and the Sport Participation Inventory. The Sport Participation Inventory, consisting of a two-part self-report questionnaire, was the data gathering instrument used for the study. Section I identified biographical data as well as attribute variables relating to the subjects' competitive sport history. Section II of the instrument consisted of the original Bem Sex Role Inventory.

An andividual's self-perceived sex role as measured by the Bem Inventory is determined by the analysis of a 7 point Likert scale for 60 adjectives. The adjectives represent 20 masculine, 20 feminine, and 20 neutral items. The items

selected for the instrument were based on four independent samples of judges' ratings of the most desirable attributes for each of the two sexes (Bem, 1974). The original inventory was revised by Bem (1979) to 30 items. Items that did not load high on masculinity or feminity as a result of factor analysis or were redundant with biological sex were eliminated. Although the subjects in this study completed the original inventory, only items designated as the revised inventory or the Short Form were used for scoring purposes. The scoring procedure suggested by Bem involves using a median split method to categorize subjects as masculine, feminine, or androgynous (Bem, 1979). Because of the multivariate nature of this study and the interest in comparing individual scores rather than classifying individuals, an alternative assessment procedure suggested by Goetz was used.

Masculine and feminine scales from the Short Form of the Bem Inventory (1979) were analyzed to identify the group mean scores that reflected the subjects' self-perceived sex roles. Masculine and feminine totals were figured by subtracting 1 from each reported score on the Inventory (a rating of 7 for an adjective became a 6; a 1 became a zero). The 10 scores from each scale were then totaled. This computation resulted in a masculine or feminine score for each subject which could range from 0-60. A score of zero on either of the scales indicated the absence of a masculine or feminine role orientation, while scores closer to 60 on either of the scales reflected a strong masculine or feminine orientation.

The androgyny score for each subject was calculated based on the following

multiplicative model:

$$\sqrt{\text{masculine total} \times \text{feminine total}}$$

This computation for the androgyny score was considered appropriate because the population studied consisted of only one sex (females) and it fit the conceptual model of psychological androgyny proposed by Bem (1974, 1979). The use of the multiplicative model for scoring resulted in androgyny scores that could also range from zero (indicating the absence of an androgynous orientation) to 60 (reflecting a strong androgynous orientation resulting from a high masculine and a high feminine total). Group means for each sex role score were figured. Differences in the group means were calculated for sport, level of competitiveness and age. All contrasts were tested at the p .05 level of significance. Scores were analyzed by the Cramer Multivariate Analysis of Variance procedure for non-orthogonal designs (Cramer, 1974). This statistical procedure was selected for analysis of the three dependent (masculine, feminine, and androgynous scores) and independent (sport, level of competitive involvement, and age) variables identified in the major hypotheses of the study because it allowed for the simultaneous analysis of the dependent variables. The MANOVA analysis reflected a test of the overall significance for self-perceived sex roles among the masculine, feminine, and androgyny group scores as a composite (Kerlinger and Pedhazur, 1973).

Results and Discussion

The statistical design of the study was a 4(sport) x 3(level of competitiveness) x 4(age) factorial. The first overall MANOVA 4(sport) x (level of competitiveness) x 4(age) revealed a main effect for level of competitive involvement ($p < .004$), a significant first order interaction for sport by level of competitiveness ($p < .005$), a significant first order interaction for sport by age ($p < .001$), and a second order interaction for sport by level of competitiveness by age. The three-way interaction (sport x level x age) was tested including each of the three two-way interactions (sport x level, sport x age, age x level). Significant alpha levels were attained in all instances with the lowest level attained ($p < .024$) reported for the three-way interaction. The significant levels for MANOVA effects and interactions are reported in Table 2. The major finding from the statistical analysis of the data generated from the Sports Participation Inventory was a significant main effect for level of competitive involvement with respect to self-perceived sex role scores of the female sport participants studied (Theta .013, $p < .004$). Table 3 illustrates the means, standard deviations and the F-ratios of the dependent variables with respect to the main effect of level of competitiveness. This result implies that the subjects, as a group, had significantly different sex role orientation scores with respect to their level of involvement in competitive sport behavior. The anticipated significant difference for the androgynous role orientation with respect to level of competitive involvement was not found. This prediction was based on Bem's (1974;

1979) conceptualization of psychological androgyny. The prediction was that a higher level of competitive involvement in sport would reflect a more androgynous role orientation score. The mean androgyny score reported for the total population was 42.02, a fairly high overall rating in comparison with the masculine grand mead of 39.48, and the feminine grand mean of 45.44. The lack of a significant difference in androgyny scores by level of competitive involvement may have been due to a "ceilling effect"—an already high level of androgyny for even the non-to-moderate competitive groups studied.

Insert Table 2 about here

Insert Table 3 about here

The non-significant finding of androgynous differences by levels in conjunction with the high androgynous grand means reported for subjects indicated possible support for Ullian's (1976) contemporary model of sex role development. Ullian (1976) has suggested that, by age 18, an individual has acquired an androgynous orientation, "sex-stereotyped traits are not assumed to be crucial aspects of person identity" (in Frieze et al., 1978, p. 131). The average age of the subjects was 24 years (range of age was from 15-71); six years older than the androgynous stage of sex role conceptualization suggested by Ullian (1976).

Although the androgynous mean scores were not significant across levels of competitive involvement, a significant difference in the masculine mean scores for the subjects with respect to level of competitive involvement was found (see Table 2). A comparison of the masculine, feminine, and androgynous mean scores by level is plotted in Figure 1.

Insert Figure 1 about here

An examination of the means suggested a difference between the non-to-moderate competitive level with the combined intense and elite competitive level scores. Figure 1 illustrates that the higher competitive levels of involvement in sport reflected a stronger masculine role orientation. Considered alone, the significant effect of masculine scores by level would suggest the traditional stereotypic function of competitive sport as an agent of masculinization. (Metheny, 1965; Snyder, Kivlin, and Spreitzer, 1975), or conversely, that more masculine oriented individuals select more competitive levels of sport involvement. Examination of the feminine scores by level as illustrated in Figure 1 also indicate differing mean scores in the direction predicted by the traditional perception of competitive sport (strongest feminine orientation found at the non-to-moderate competitive level). By comparing the mean scores reported for all three of the role orientations across levels, a more contemporary perception of the female participants studied was reflected.

The subjects as a group reported strong feminine as well as masculine orien-

tation scores. Interestingly, feminine scores were consistently higher than masculine scores regardless of level of competitive involvement.

The prediction that there would be a tendency toward greater feminine orientation scores for individuals participating in the traditional feminine sports (swimming, diving, golf) than those participating in the less traditionally accepted team sport of volleyball was not supported in this study. Mean scores reported for the three role orientations with respect to sport are plotted in Figure 2 for comparison. Subjects from the swimming population reflected the weakest masculine orientation scores, while the volleyball subjects reflected higher mean scores for all three orientations than the three other sport populations studied. This trend may be partially explained by the suggestion by Harris (1975), that individuals participating in less traditional behaviors (team sports versus individual sports) require stronger feminine perceptions for general social acceptance as well as a stronger masculine perception to perform successfully in non-traditional feminine behaviors such as spiking or blocking in volleyball. The golf, swimming, and diving populations reflected the same pattern of mean scores for sex role orientations as the volleyball population; however, no two sport populations differed significantly with respect to any of the individual role orientations.

Insert Figure 2 about here

The predicted difference in androgynous orientations with respect to age (older more androgynous; younger more femininely oriented) was not supported in this study. These results suggest that the traditional perception of competitive sport behavior as detrimental and incongruent for females with respect to developing a "healthy" feminine sex role perception may no longer be valid.

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TABLE 1

4 X 3 CONTINGENCY TABLE FOR SPORT X COMPETITIVE LEVEL
PERCENT PARTICIPATION SCORES

Sport	Non Competitive	Intense Competitive	Elite Competitive	Row Total
Diving	(8)*	(11)	(6)	(25)
	32.0[1]	44.0	24.0	3.8
	3.3[2]	3.7	5.0	
	1.2[3]	1.7	0.9	
Golf	(70)**	(99)	(63)	(232)
	30.2	42.7	27.2	35.3
	28.9	33.9	52.5	
	10.7	15.1	9.6	
Swimming	(80)	(82)	(38)	(200)
	40.0	41.0	19.0	30.4
	33.1	27.8	31.7	
	12.2	12.5	5.8	
Volleyball	(84)**	(103)	(13)	(200)
	42.0	51.5	6.5	30.4
	34.7	34.9	10.8	
	12.8	15.7	2.0	
Column Total	(242)	(295)	(120)	(657)
	36.8	44.9	18.3	

*( ) = Actual number of subjects in each sport population
1 = row %; 2 = column %; 3 = total %
** = subjects represent both non and moderate competitive levels
$\chi^2 = 33.53$; $p < .001$

TABLE 2

SIGNIFICANCE LEVELS FOR MANOVA MAIN EFFECTS, FIRST ORDER INTERACTIONS AND SECOND ORDER INTERACTIONS

Dependent Variables**	Sport	Level	Age	Sport x Level	Sport x Age	Level x Age	Sport x Level x Age
Masculine Score Feminine Score Androgyny Score	Theta (.013) p < .286	Theta (.026) p < .004	Theta (.012) p < .331	Theta (.040) p < .005	Theta (.059) p < .001	Theta (.023) p < .195	Theta (.063) p < .02

**Dependent variables considered simultaneously

TABLE 3

SEX ROLE ORIENTATION AS A FUNCTION OF LEVELS OF COMPETITIVENESS: MEANS, STANDARD DEVIATIONS, AND F-RATIOS FOR MASCULINITY, FEMININITY, AND ANDROGYNY

Dependent Variables	LEVELS OF COMPETITIVENESS			F-Ratios for Level Effect
	Non-Competitive n=242	Intense Competitive n=295	Elite Competitive n=120	
Masculine Score	M 38.50 SD 8.91	M 40.68 SD 7.69	M 39.99 Sd 7.63	3.441*
Feminine Score	M 46.38 SD 7.68	M 45.21 SD 8.06	M 44.10 SD 8.29	1.935
Androgyny Score	M 41.84 SD 6.53	M 42.30 SD 6.47	M 41.67 SD 6.27	.548

*$p < .035$; df (2,627)

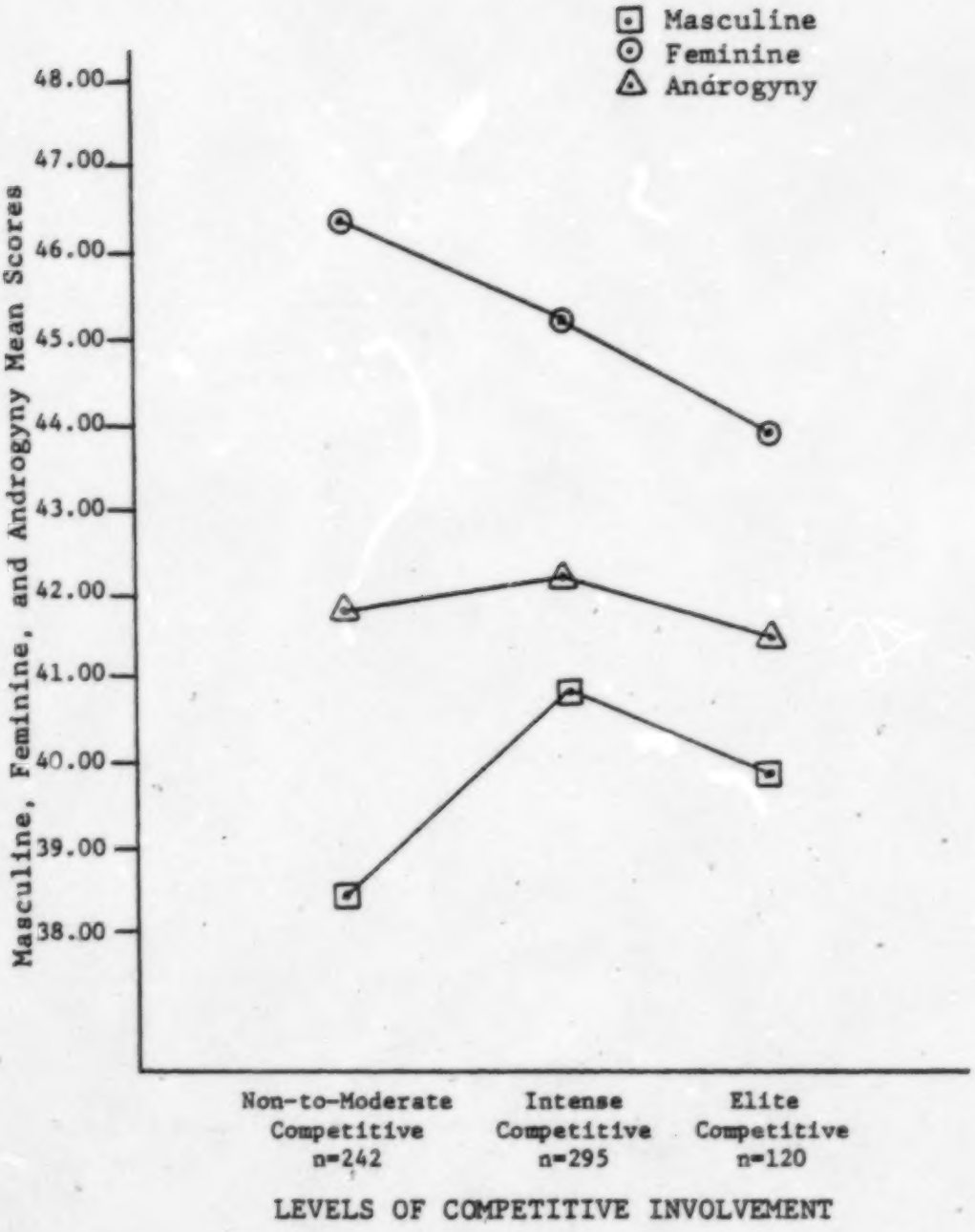

Figure 1. Graph of Masculine, Feminine, and Androgyny Mean Scores as a Function of Level of Competitive Involvement

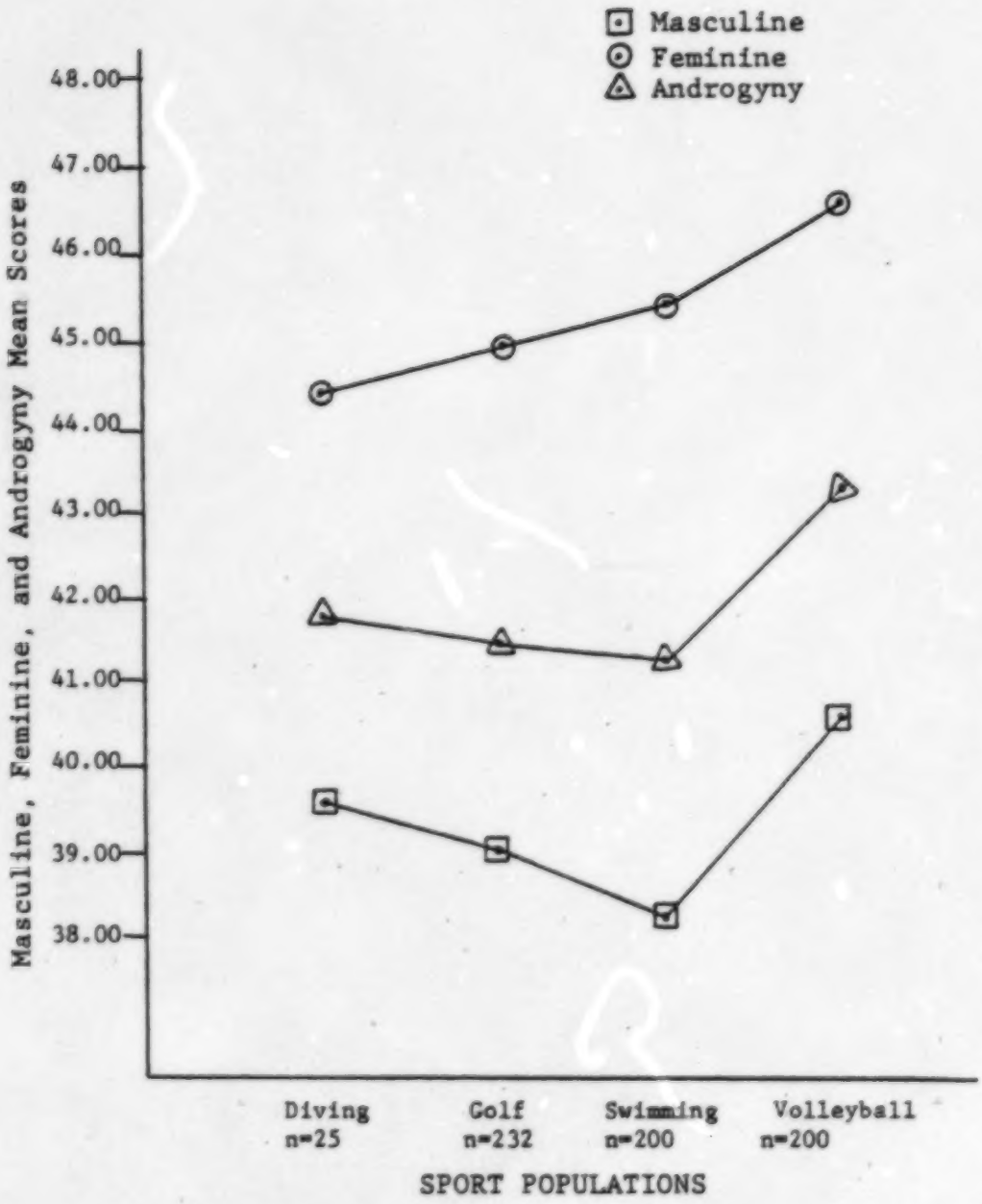

Figure 2. Graph of Masculine, Feminine, and Androgyny Mean Scores as a Function of the Sport Populations Studied

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